

ABSTRACT

A viscosity measurement apparatus, or viscometer, including a fluid flow channel, a heating element disposed at least around an exterior portion of the fluid flow channel near an inlet end, and a temperature sensor disposed within the fluid flow channel downstream from the heating element. The viscometer may also include a thermally insulating jacket disposed around the heating element and the fluid flow channel. A method of measuring viscosity with the viscometer includes immersing a fluid flow channel in the fluid, heating a portion of the fluid in the fluid flow channel near the inlet end of the fluid flow channel, and measuring a temperature of the fluid in the fluid flow channel at a position downstream from the inlet end of the fluid flow channel. The method further includes recording temperature changes of the fluid for a time period and comparing recorded temperature change characteristics to known fluid viscosities to determine viscosity.